BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE-560 056

Date: 22-08-2022

TEST REPORT
(BITUMEN EXTRACTION & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for Bituminous Concrete, Gr-II.
{Project*: Dismantling and Construction of Culverts, Removal of debris and Providing New Pre-Cast RCC covering slabs, desilting of drains in Dasarahalli Ward No.15 }

Ref.: Letter No. BBMP/DZ/AEE/T.DSD/PR/১৩২/2022-23, dated, 20-08-2022

Sample supplied to lab by: Assistant Executive Engineer
T. Dasarahalli Sub-Division
BBMP, Bangalore

Name of Contractor/Agency *: Sri. B.M. Yoganand, Contractor

Technical Reference: Ministry of Road Transport & Highways, V Revision-2013

TEST RESULTS

1. BITUMEN EXTRACTION TEST (BC SAMPLE):

TABLE. 1.1

Sl. No.	Details of Test	Test Results
1	**Bitumen Extraction Test** i) Weight of Bituminous Mix, gm	500.00
	ii) Weight of dry aggregate after Bitumen Extraction test, gm	469.90
	iii) Weight of bitumen in the mix,gm	30.10
	Bitumen content, percent by weight of total mix	6.02%

*As furnished by client

The Results relate only to the samples tested.

DEPARTMENT OF CIVIL ENGINEERING * BANGALORE UNIVERSITY

Assistant Executive Engineer
T. Dasarahalli Sub Division
Bagalagunte, BBMP
Bangalore-560073

22/8/22

Dr. H. C. MUDDARAJU
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BANGALORE-560 056

Date: 22-08-2022

2. GRADATION TEST (BC-Gr-2)

TABLE 2.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Vth Specfications-2013 BC (Grading – 2)
19.0	**100**	100
13.2	**96.35**	90-100
9.5	**82.90**	70-88
4.75	**67.25**	53-71
2.36	**49.50**	42-58
1.18	**38.10**	34-48
0.600	**29.45**	26-38
0.300	**21.85**	18-28
0.150	**18.20**	12-20
0.075	**8.05**	4-10

*As Furnished by Client.
The Results relate only to the samples tested.

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JNANA BHARATHI
BANGALORE-560 056

Date: 23-08-2022

TEST REPORT
(BITUMEN EXTRACTION & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for Bituminous Concrete, Gr-II.
{Project*: Dismantling and Construction of Culverts, Removal of debris and Providing New Pre-Cast RCC covering slabs, desilting of drains in Dasarahalli Ward No.15 }

Ref.: Letter No. BBMP/DZ/AEE/T.DSD/PRA[illegible]/2022-23, dated, 22-08-2022

Sample supplied to lab by: Assistant Executive Engineer
T. Dasarahalli Sub-Division
BBMP, Bangalore

Name of Contractor/Agency *: Sri. B.M. Yoganand, Contractor

Technical Reference: Ministry of Road Transport & Highways, V Revision-2013

TEST RESULTS

1. BITUMEN EXTRACTION TEST (BC SAMPLE):

TABLE. 1.1

Sl. No.	Details of Test	Test Results
1	**Bitumen Extraction Test** i) Weight of Bituminous Mix, gm	500.00
	ii) Weight of dry aggregate after Bitumen Extraction test, gm	469.80
	iii) Weight of bitumen in the mix,gm	30.20
	Bitumen content, percent by weight of total mix	6.04%

*As furnished by client

The Results relate only to the samples tested.

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Date: 23-08-2022

2. GRADATION TEST (BC-Gr-2)

TABLE 2.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Vth Specfications-2013 BC (Grading – 2)
19.0	100	100
13.2	97.45	90-100
9.5	85.10	70-88
4.75	63.90	53-71
2.36	51.05	42-58
1.18	43.60	34-48
0.600	32.15	26-38
0.300	23.85	18-28
0.150	19.35	12-20
0.075	8.65	4-10

*As Furnished by Client.
The Results relate only to the samples tested.

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Date: 23-08-2022

TEST REPORT
(BITUMEN EXTRACTION & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for Bituminous Concrete, Gr-II.
{Project*: Dismantling and Construction of Culverts, Removal of debris and Providing New Pre-Cast RCC covering slabs, desilting of drains in Dasarahalli Ward No.15 }

Ref.: Letter No. BBMP/DZ/AEE/T.DSD/PRA No 4/1/2022-23, dated, 22-08-2022

Sample supplied to lab by: Assistant Executive Engineer
T. Dasarahalli Sub-Division
BBMP, Bangalore

Name of Contractor/Agency *: Sri. B.M. Yoganand, Contractor

Technical Reference: Ministry of Road Transport & Highways, V Revision-2013

TEST RESULTS

1. BITUMEN EXTRACTION TEST (BC SAMPLE):

TABLE. 1.1

Sl. No.	Details of Test	Test Results
1	**Bitumen Extraction Test** i) Weight of Bituminous Mix, gm	500.00
	ii) Weight of dry aggregate after Bitumen Extraction test, gm	469.85
	iii) Weight of bitumen in the mix,gm	30.15
	Bitumen content, percent by weight of total mix	6.03%

*As furnished by client

The Results relate only to the samples tested.

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Date: 23-08-2022

2. GRADATION TEST (BC-Gr-2)

TABLE 2.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Vth Specfications-2013 BC (Grading – 2)
19.0	100	100
13.2	96.10	90-100
9.5	82.65	70-88
4.75	65.15	53-71
2.36	53.65	42-58
1.18	41.05	34-48
0.600	35.45	26-38
0.300	24.50	18-28
0.150	18.70	12-20
0.075	8.25	4-10

*As Furnished by Client.
The Results relate only to the samples tested.

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CIVIL AIM CONSULTANTS & ENGINEERS

(Building Geo-Tech & Highway Materials Testing Laboratory)

An ISO 9001-2015 Certified Company

NABL Accredited As Per ISO/IEC 17025:2017 Laboratory

QC ABSTRACT

Nameof Work: Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15

Sl. No.	Item	Quantity As Per BOQ	Required No's of testes	Actual No's of testes	Testes	Frequency
1	Slab (100mm)	232.56 Sqm	1	1	Concrete Core Compressive Strength	-
2	WMM	174.42 Cum	-	-	-	-
		Gradation	2	2	-	-
		AIV	1	1	-	-
		Shape Test	1	1	-	-
		Atterberg Limits	2	2	-	-
3	DBM	58.14 Cum	-	-	-	-
		Quality of Binder	1	1	-	-
		AIV	1	1	-	-
		Shape Test	1	1	-	-
		Gradation	1	1	-	-
		Specific Gravity	1	1	-	-
		Stability of Mix	2	2	-	-
		Bitumen content	2	2	-	-
4	BC	129.20 Cum	-	-	-	-
		Quality of Binder	1	1	-	-
		AIV	1	1	-	-
		Shape Test	1	1	-	-
		Gradation	1	1	-	-
		Specific Gravity	1	1	-	-
		Stability of Mix	3	3	-	-
		Bitumen content	3	3	-	-

Assistant Executive Engineer
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Job No:- CACE/BBMP/YBM/W No 15/2022-23 Date: 06.07.2022

TEST REPORT

CLIENT	:	**Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.**
AGENCY	:	**Sri Yoganand B M Contractor Bangalore**
NAME OF THE WORK	:	Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15
SAMPLE ID	:	Cement (Birla OPC 53 Grade)
DATE OF MANUFACTURE		June-2022
DATE OF TESTING		04.07.2022 to 06.07.2022
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 269-2015
1	a) Initial Setting Time	IS-4031 (Part -5)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	330 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	30.00 %	-

Note:

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⇒ The results indicated above are based on the tests carried out on the samples collected at the site.

⇒ Any Query regarding the report must be reported within 30days from the date of testing.

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Job No.: CACE/BBMP/YBM/W No.15/2022-23

Date : 06.07.2022

TEST REPORT ON FINE AGGREGATES (SAND)

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.

Agency : Sri Yoganand B M Contractor Bangalore

Name of Work :Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15

Date of Testing : 06.07.2022

IS Code : IS 383:2016

: IS 2386 (Part 1):1963(RA 2011)

Material : Sand

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	92	9.20	9.20	90.8	90-100
2.36	129	12.90	22.10	77.9	75-100
1.18	189	18.90	41.00	59.0	55-90
600 Micron	167	16.70	57.70	42.3	35-59
300 Micron	249	24.90	82.60	17.4	8-30
150 Micron	133	13.30	95.90	4.1	0-10

Note:

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Job No.: CACE/BBMP/YBM/W No.15/2022-23 Date 06.07.2022

TEST REPORT ON FINE AGGREGATES (SAND)
IS 2116-1980

Client : **Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.**
Agency : **Sri Yoganand B M Contractor Bangalore**
Name of Work : Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15

Date of Testing 06.07.2022

Material : Masonry Sand

Total wt. of aggregates in gms = **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits as per IS 2116-1980
4.75	0	0.00	0.00	100.0	100
2.36	21	2.10	2.10	97.9	90-100
1.18	38	3.80	5.90	94.1	70-100
600 Micron	82	8.20	14.10	85.9	40-100
300 Micron	258	25.80	39.90	60.1	5-70
150 Micron	478	47.80	87.70	12.3	0-15

Note:

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3. Any Query regarding the report must be reported within 30 days from the date of testing.

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For CIVIL AIM CONSULTANTS & ENGINEERS
Srikanth
Authorised Signatory

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Job No.: CACE/BBMP/YBM/W No.15/2022-23

Date: 11.07.2022

PRECAST SLAB 100mm Thick(CORE) TEST REPORT

Client	:	: Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Contractor	:	: Sri Yoganand B M Contractor Bangalore
Name of Work	:	: Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15
No.of Sample Tested	:	03
Date of Testing	:	11.07.2022
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{20}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	82.00	0.378	2347.73	1.64	0.961	32.60	16.60	17.93	17.23	21.54
2	50.00	84.00	0.389	2358.52	1.68	0.965	33.50	17.06	18.43	17.79	22.24
3	50.00	86.00	0.405	2398.43	1.72	0.970	34.20	17.42	18.81	18.24	22.80

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Job No.: CACE/BBMP/YBM/W No.15/2022-23 Date : 30.07.2022

ATTERBERG LIMITS TEST FOR WMM

Client : **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Sri Yoganand B M** Contractor Bangalore

Name of Work : Dismantling and Construction of Culverts,Removal of Debries and Providing new Pre-cast RCC Covering Slabs,desiliting of drains in Dasarahalli Ward No 15

IS Code: : IS 2720(Part 5):1985

Date of Testing : 28.07.2022 to 30.07.2022

Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	21.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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